

## **REMARKS TO DETAILED ACTION**

This is a response to the Office Action referenced by the Examiner as mailed on June 19, 2002, for the above-captioned application. The following remarks are organized by the section headings used in the Examiner's Office Action, beginning on page 2 therein:

### ***Drawings***

The Applicant submits herewith, four sheets of revised drawings (FIGs. 1 through 6E), with revisions circled for approval by the Examiner.

The drawings are first objected to because the sectioned view of FIG. 6E does not appear to be completed. The Applicant observes that the drawing is substantially complete, but lacks a set of unbroken lines, conventionally employed to designate holes that have been cut by the section view plane. Therefore, the Applicant includes herein, a proposed drawing correction that includes these missing lines. The Applicant contends that these lines are not new matter, in that the holes are shown in the Figure in question, in the remainder of the drawings, and discussed in the written originally filed specification.

The drawings are also objected to because they do not include the reference sign "5-5," as mentioned in the description of the invention. The Applicant includes herein, a proposed drawing correction that includes this missing reference in FIG. 4. No new matter is added by this correction, as 5-5 is discussed in the "DRAWINGS" section of the originally filed specification. Specifically, the specification states that FIG. 5 is a thin-sectional view of the version of the apparatus for connecting and sealing duct sections taken along the 5-5 lines of FIG. 4.

The Applicant also notes that in many instances the reference number lead lines fail to extend to the feature indicated as required in 37 CFR 1.84 (q). The Applicant includes herein, a proposed

drawing correction that extends these reference lines so that they terminate at the referenced feature.  
No new matter is added by this correction.

### ***Claim Rejections - 35 U.S.C. § 103***

The Examiner rejects the Applicant's claims 1, 2, and 4 under 35 USC 103(a), as being unpatentable over U.S. patent No. 2,451,941 to Glover, Jr et al., in view of U.S. patent No. 5,016,925 to Davis.

In regards to claim 1, the Applicant observes that the Examiner cited "annular rounded perimeter" of Glover '941 would fail to function as required for the present invention. In fact, the true, outer perimeter of the Glover flange rolls outwardly, away from the duct connection, rather than inwardly toward the duct connection. Therefore, the Glover flange fails to form a true "tube cavity"(Aiv), which must function to conceal the "excess duct sealer trough" (B), as required in the originally filed claims.

However, to more clearly differentiate the claim over Glover '941, the Applicant amends claim 1, as herein detailed, to specify that the annular rounded perimeter is rounded inwardly, toward the outer end of the tubular member. Additionally, the Applicant amends claim 1 to specify that the annular rounded perimeter is at the outer perimeter of the annular flange. These changes eliminate Glover as a § 103 reference of concern in that Glover only teaches the outward bends and curves of the duct flange at the interior of the flange to accommodate a tubular seal, rather than an outward bend and curve at the perimeter of the flange to accommodate excess duct seal.

In regards to Davis '925, the Applicant acknowledges, as stated in the Background section of the filed specification, that gaskets are employed in the connection of ducts. Furthermore, in the Applicant's specification, the O-ring is discussed as a type of gasket preferably employed in an embodiment of the present invention. However, the Applicant notes that Davis also fails to teach any perimeter rolls in the flange termination, beyond a standard straight edge.

The Applicant also notes that the O-ring is not a required element in the claim. Therefore, the "O-ring channel" is not required, as discussed in the specification and shown in FIGs. 6C and 6D. Therefore, the O-ring channel is removed from claim 1, and added as a dependent claim 6, which depends from claim 1.

In regards to claim 2, this claim depends from claim 1. Claim 1, as amended, is now considered patentable over the prior art of record. Claim 2 includes all elements of claim 1. Therefore, claim 2 is also considered patentable over prior art of record.

In regards to claim 4, this claim also depends from claim 1. Claim 1, as amended, is now considered patentable over the prior art of record. Claim 4 includes all elements of claim 1. Therefore, claim 4 is also considered patentable over prior art of record.

The Examiner rejects Applicant's claims 3 and 5 under 35 USC 103(a), as being unpatentable over U.S. patent No. 2,451,941 to Glover, Jr et al., in view of U.S. patent No. 5,016,925 to Davis in further view of U.S. patent 4,913,472 to Janakirama-Rao.

In regards to Janakirama-Rao'472, the Applicant acknowledges, as stated in the Background section of the filed specification, that duct sealer is known in the art. The Applicant also states in the "BACKGROUND" section of the invention disclosure that excess duct sealer squeezed from between the flanges tends to foul the perimeter of the apparatus. This prior art problem is exemplified in Janakirama-Rao, in that the excess duct sealer forms an exposed bead at the perimeter of the duct. The Applicant notes that Janakirama-Rao also fails to teach any perimeter rolls or flange terminations, beyond a standard outward rolled edge.

In regards to claim 3, this claim depends from claim 2, which depends from claim 1. Claim 1, as amended, is now considered patentable over the prior art of record. Claim 3 includes all elements of claims 1 and 2. Therefore, claim 3 is also considered patentable over prior art of record.

In regards to claim 5, the Applicants amend this claim as discussed for claim 1, above. To

more clearly differentiate claim 5 over Glover '941, the Applicant amends claim 5, as herein detailed, to specify that the annular rounded perimeter is rounded inwardly, toward the outer end of the tubular member. Additionally, the Applicant amends claim 5 to specify that the annular rounded perimeter is at the outer perimeter of the annular flange. As with claim 1, these changes eliminate Glover as a § 103 reference of concern against this claim in that Glover only teaches the outward bends and curves of the duct flange at the interior of the flange to accommodate a tubular seal, rather than an outward bend and curve at the perimeter of the flange to accommodate excess duct seal.

As with claim 1, the Applicant also notes that the O-ring is not a required element in claim 5. Therefore, the "O-ring channel" is not required, as discussed in the specification and shown in FIGs. 6C and 6D. Therefore, the O-ring channel is removed from claim 5.

#### **NEW CLAIMS**

The Applicant adds claims 6 and 7, which depend from claim 1. Claim 6, as discussed above, relates to the optional "O-ring channel," and claim 7 relates to the optional "wire rod."

## VERSION OF AMENDED CLAIMS WITH MARKINGS TO SHOW CHANGES MADE

1. (Amended) An apparatus for connecting and sealing duct sections, the apparatus comprising:

- (A) first and second connectors, each connector comprising:
  - (a) a tubular member[, defining an O-ring channel on an outer surface];
  - (b) an annular flange, extending radially outwardly from an outer end of the tubular member; and
  - (c) a rolled edge, comprising:
    - (i) an annular radially inner bend, attached to the outer perimeter of the annular flange;
    - (ii) an annular radially outer roll, adjacent to the radially inner bend;
    - (iii) an annular rounded perimeter, adjacent to the annular radially outer roll and at the outer perimeter of the annular flange, the annular rounded perimeter rounded inwardly toward the outer end of the tubular member; and
    - (iv) whereby a tube cavity is defined within the annular radially outer roll and annular rounded perimeter;
- (B) whereby an excess duct sealer trough is defined between rolled edges of the first and second connectors; and
- (C) a plurality of fasteners connecting the annular flange of the first connector to the annular flange of the second connector.

5. (Amended) An apparatus for connecting and sealing duct sections, the apparatus comprising:

- (A) first and second connectors, each connector comprising:
- (a) a tubular member[, defining an O-ring channel on an outer surface];
  - (b) an annular flange, extending radially outwardly from an outer end of the tubular member; and
  - (c) a rolled edge, comprising:
    - (i) an annular radially inner bend, attached to the outer perimeter of the annular flange;
    - (ii) an annular radially outer roll, adjacent to the radially inner bend;
    - (iii) an annular rounded perimeter, adjacent to the annular radially outer roll and at the outer perimeter of the annular flange, the annular rounded perimeter rounded inwardly, toward the outer end of the tubular member,
    - (iv) whereby a tube cavity is defined within the annular radially outer roll and annular rounded perimeter; and
    - (v) a wire rod, carried within the tube cavity;
- (B) whereby an excess duct sealer trough is defined between rolled edges of the first and second connectors;
- (C) a gasket, carried between outer annular surfaces of the annular flanges of the first and second connectors, the gasket having a first side surface directed toward the outer annular surface of the first connector and a second side surface directed toward the outer annular surface of the second connector;
- (D) a duct sealer, carried firstly between the first side surface of the gasket and

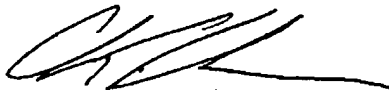
the outer annular surface of the annular flange of the first connector, and carried secondly between the second side surface of the gasket and the outer annular surface of the annular flange of the second connector, and carried thirdly carried in the excess duct sealer trough defined between the rolled edges of the first and second connectors; and

- (E) a plurality of fasteners connecting the annular flange of the first connector to the annular flange of the second connector.

### CONCLUSION

The Applicant has reviewed the prior art references submitted by the Examiner and sees them as references of a background nature. The Applicant wishes for reconsideration of the claims and drawings in view of this amendment and response. The Applicant believes that all of the Examiner's concerns have been fully addressed and that amended claims 1 and 5, unamended claims 2, 3, and 4, and new claims 6 and 7, are all in condition for allowance. The Applicant therefore respectfully requests reconsideration of the amended claims in the application and a withdrawal of all rejections and objections.

Respectfully submitted,  
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### CERTIFICATE OF TRANSMITTAL BY FACSIMILE

I hereby certify that this correspondence, along with four sheets of proposed drawing revisions, are being transmitted via facsimile to the Commissioner of Patents and Trademarks, Washington D.C. at facsimile number (703) 872-9302 on September 19, 2002.

  
CHRIS E. SVENDSEN